

APPENDIX F: IMPLEMENTATION

I. OVERVIEW

Implementation of the preferred alternative of the CCP will require increased funding, which will be sought from a variety of sources. This plan will depend on additional Congressional allocations, partnerships and grants. There are no guarantees that additional federal funds will be made available to implement any of these projects. Other sources of funds will need to be obtained (both public and private). Activities and projects identified will be implemented as funds become available.

Many of the infrastructure and facility projects will be eligible for funding through construction or Transportation Equity Act (TEA-21) funds (i.e. Refuge Roads).

The Comprehensive Conservation Plan proposes several projects to be implemented over the next 15 years. All of these projects are included in the Refuge Management Information System (RONS-Refuge Operational Needs System or MMS- Maintenance Management System) which are used to request funding from Congress. Currently, a large backlog of maintenance needs exists on the Refuge. In 2002 the MMS backlog for Turnbull NWR was \$5,850,000. An attempt at reducing this backlog needs to be addressed and is included here in the analysis of funding needs. The Refuge Operational Needs System (RONS) documents proposed new projects to implement the CCP to meet Refuge goals and objectives and legal mandates.

Annual revenue sharing payments to Spokane County will continue. If the Refuge expands through the purchase of inholdings (privately owned lands within the current approved boundary) or through an expanded refuge boundary, additional in lieu of tax payments will be made to the county (see Chapter 4, section 4.3 for a summary of the economic effects). Total revenue sharing payments made to Spokane County in 2001 and 2002 were \$52,107, and \$53,185 respectively.

Revenues to the county will also increase based on any economic uses occurring on the Refuge such as commercial thinning projects. Currently, commercially thinning about 500 thousand board feet (mbf) of timber generates to the federal government revenues between \$90,000 and \$120,000. Saw timber value at this time averages about \$450 / mbf. Permittee's costs are running between \$120-\$130 / mbf and rehabilitation costs currently run about \$400/acre. The Refuge expects about five more years of commercial thinning activity within the next decade.

Monitoring activities will be conducted on a percentage of all new and existing projects and activities to document wildlife populations and changes across time, habitat conditions and responses to management practices. Actual monitoring and evaluation procedures will be detailed in step-down management plans.

II. COSTS TO IMPLEMENT CCP

The following sections detail both one time and recurring costs for various projects, by alternative. One time costs reflect the initial costs associated with a project whether it is purchase of equipment, contracting services, construction, purchase of land etc. Recurring costs reflect the future operational and maintenance costs associated with the project.

A. ONE TIME COSTS

One time costs are project costs that have a start up cost associated with them, such as purchasing a new vehicle for wildlife and habitat monitoring or designing and installing an interpretive sign. These projects are usually projects that can be completed in 3 years or less. These projects do not include permanent operational costs (staff salary and support). They can, however, include the cost of temporary or term salary associated with a short term project. Salary for new positions and operational costs are reflected in operational or "recurring" costs.

Funds for one time costs will be sought through increases in Refuge base funding, special project funds, grants, TEA3 funding, etc. Some projects also might require Fire Funds, land acquisition funds, or other special appropriations or grants.

Projects listed below in Table F-1 show one time costs, such as those associated with building and facility needs such as offices, public use facilities, road improvements, and new signs. One time costs are also associated with habitat restoration and protection projects such as specific forestry and wetland projects,

research and land acquisition. New research projects, because of their short term nature are considered one time projects, and include costs of contracting services or hiring a temporary for the short term project. Some project costs are displayed as ranges since there are many factors that will influence the number of acres managed per year, put under some kind of conservation agreement or purchased. Table F-1 below compares one time costs between the four alternatives. The table is divided into four parts (A, B, C, and D).

Table F-1. Part A. One Time Costs (in thousands) for Research and Monitoring

Project -Research & Monitoring	Priority	Unit Cost	Alt 1	Alt 2	Alt 3	Alt 4	Potential Fund Source
Prescribed Fire monitoring (equipment support)	H	\$33K	\$33	\$33	\$40	\$40	9263 RONS 98001R
Water quality monitoring (equipment support)	H	\$5K	\$35	\$35	\$40	\$60	RONS 00001R Contaminants
Expand wildlife and habitat monitoring program (equipment support)	M	\$22K	\$22	\$22	\$44	\$44	RONS 97004R 02006R 00005R
Wetland Contour Mapping	M	\$9K	\$180	\$180	\$234	\$270	RONS 98004R 00011R
Hydrology study of Stubblefield Lake	H	\$110K	\$110	\$110	\$110	\$110	RONS 00006R
Research (several needs including rail, redhead & tern nesting ecology, pest plant, overflight impacts, howellia, elk movements, invasive fish species)	H	\$20K/ project	\$20	\$20	\$40	\$80	RONS 98002R 02010R 02012R 97005R 02011R 02013R 03010R 03008R/ grants
All Research and Monitoring Projects Subtotal (thousands)			400	400	508	604	
High Priority Research and Monitoring Only (thousands)			198	198	230	290	

Table F-1. Part B. One Time Costs (in thousands) for Facilities

Project - Facilities	Priority	Unit Cost	Alt 1	Alt 2	Alt 3	Alt 4	Fund Source
EE Classroom Addition w/ furnishings	M	\$275/sf	0	1200SF \$430	1200 SF \$430	1200 SF \$430	1262 Deferred Maint. RONS 00003R
Office w/ visitor contact area & furnishings	H	\$290/SF	0	\$1000 3600 sf	\$1,500 4500 sf	\$1,500 4500 sq	00006M Construction RONS 00003R
Fire Facilities (office, crew room, fire cache and engine storage)	H	\$150/SF	0	2000SF \$300	2000SF \$300	2000SF \$300	Fire 9251
EE Shelters	L	\$20K ea	0	\$60	\$60	\$60	RONS 03004R In Kind Services
New Trails	M	\$20K/mi	0	3.5 mi \$70	3.5 mi \$70	3.5 mi \$70	Grants, RONS 03005R or TEA 3
Bicycle Trails	M	\$218K/mi	0	0	2.75mi 600	5.75 mi. \$1, 250	RONS 02002R Grants/ or TEA 3
Observation/Photo Blinds	H	\$10K ea	0	\$20	\$20	\$20	Grants/ RONS 03006R
Interpretive Signs	H	\$5K ea	0	\$80	\$96	\$96	Grants/ RONS 00008R 00010R
Parking (Hunter Access) Construction	M	\$16K ea	\$32K	\$32	\$48	\$96	Grants/ RONS 03007R
Pullouts (County Hwys) with Observation platforms	L	\$62.5K ea	0	0	\$250	\$250	RONS 02003R Refuge Roads/ TEA 3
Refuge Video Production	L	\$43K	\$43	\$43	\$43	\$43	RONS 02005R
Public Use Support (includes costs associated with hunt plan, public safety, maintenance, and operations)	H	\$40K	\$40	\$40	\$40	\$40	RONS 02004R 02001R 00012R 00007R 97003R
All Facilities Subtotal (in thousands)			\$115	\$2,145	\$3,527	\$4,225	
High Priority Facilities Subtotal (thousands)			\$40	\$1,440	\$1,956	\$1,956	

Table F-1. Part C. One Time Costs (in thousands) for Habitat Management.

(The following projects include the assumption that some acres will be treated several times over the course of the 15 year CCP time frame.)

Project - Habitat	Priority	Unit Cost	Alt 1	Alt 2	Alt 3	Alt 4	Fund Source
Forest Management on Refuge over 15 years	H	\$190/ac	6660 ac \$1,260	6660 ac \$1,260	8850 ac \$1,681	9600 ac \$1,824	9263/ 9264 RONS 98008R
Wetland Restoration on- Refuge over 15 years	H	\$200/ac	1850 ac \$370	1850ac \$370	2725 ac \$545	3007 ac \$601	NAWCA 97006R
Pest Plant Management over 15 years)	H	\$250/ac	1500 ac \$375	1500 ac \$375	3,750 ac \$937	5,250 ac \$1030	RONS 00009R, 02007R, 98002R Special Funds
Prescribed Fire over 15 years	H	\$60/ac	12,000 ac \$720	12,000 ac \$720	17,100 ac \$1026	18,750 ac 1125	9263 Project
Meadow Steppe Restoration	M	\$40K	\$40	\$40	\$80	\$160	RONS 03009R
Riparian Management.	H	\$250/ acre	32ac \$8	32ac \$8	96ac \$24	120 ac \$30	RONS 02008R NAWCA/WRP In Kind Services
Install Piezometer Wells to monitor water rights	H	\$5K/ea	\$106	\$106	\$130	\$150	RONS 97007R
All Habitat Projects Subtotal (in thousands)			2,879	2,879	4,423	4,920	
High Priority Habitat only Subtotal (in thousands)			2,839	2,839	4,343	4,760	

Table F-1. Part D. One Time Costs (in thousands) for Land Acquisition

Land Acquisition (estimated available acres w/in 15 years)	H	\$2K/ac	2000ac \$4,000	2000 ac \$4,000	6800 ac \$13,600	9000 ac \$18,000	Land and Water Conservation Fund/ Migratory Bird Conservation Commission funds
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B. OPERATIONAL (RECURRING) COSTS

Operational costs reflect Refuge spending of base funds allocated each year. These are also known as recurring costs and are usually associated with day to day operations and projects that last longer than three years. Operational costs use base funding in Service fund codes 1260, 9251 and 9263.

Table F-2 displays operating costs by alternative. Alternative 1 is based on a breakdown of how FY 2002 funds were spent on

day to day operations. Alternatives 2, 3, and 4 reflect increased funding needs for proposed increases in public uses and facilities, new land acquisitions, increased habitat restoration and conservation activities, and new monitoring needs. This table includes such things as salary, operational expenditures such as travel, training, supplies, utilities and annual maintenance costs.

Table F-2 includes costs for permanent and seasonal staff needed year after year. It does not

include staff costs associated with special projects; these are summarized in Table F-1. Table F-2 is also related to the Refuge Comprehensive Accomplishment Report. Alternative 1 reflects how allocations were spent among management activities in FY 2002 at Turnbull NWR. The table includes funds

spent in 1121, 1261, 1262, 9251, 9263, 6860. The table does not show costs other than operational (for example, costs of contracts for hazardous fuel or wildland urban interface projects are not included, though staff time administering these contracts is included).

Table F-2. Operational (Recurring) Costs

Project	Action	Resources Needed	Alt 1	Alt 2	Alt 3	Alt 4
1.a Surveys & Censuses	All methods of enumerating fish and wildlife populations, vegetative habitats, analysis, interpretation and reporting.	1260 - Biologist & Bio Techs and volunteers ½ Volunteer Coordinator	\$75K	\$75K	\$125K	\$125K
1.b Studies & Investigations	Research projects for managing fish and wildlife populations and habitats	1260 - Biologist & cooperators	\$15K	\$15K	\$50K	\$50K
2.a Wetland Restoration	The conversion of altered or degraded on-refuge wetland habitats, including riparian zones back to their original condition	1260, special project funds ½ Maintenance Worker	\$28K	\$28K	\$52K	\$52K
2.b Upland Restoration	The conversion of altered or degraded on-refuge upland habitats back to their original condition by such actions as replanting native species	1260 & special project funds	\$1K	\$2K	\$6K	\$12K
3.a Water Level Management	The manipulation of water bodies to affect vegetation and/or create desired wildlife conditions	1260	\$12K	\$12K	\$28K	\$38K
3.c Graze/Mow/Hay	The management of grasslands and other habitats for the benefit of wildlife by any combination of grazing, mowing, and haying.	1260	\$6K	\$6K	\$12K	\$24K

Project	Action	Resources Needed	Alt 1	Alt 2	Alt 3	Alt 4
3.e Forest Management	All mechanical forestry practices other than tree planting that are designed to alter forested habitat composition or succession to benefit wildlife. Selected thinning by staff or contractors.	1261,9251, 9263 & special project funds ½ FMO, ½ Eng Boss, 1/2 PS Fire Fighter ½ (3) Temp FF, 1/2 Crew leader & ½ (5) crew	\$230K	\$230K	\$250K	\$275K
3.f Fire Management	Prescribed burning and wildfire preparedness activities. Follow-up monitoring and reporting.	1261,9251, 9263 - ½ FMO, Eng Boss, 1 PS Fire Fighter 3 Temp FF, Crew leader & 5 crew, special project funds	\$235K	\$235K	\$265	\$280K
3.h Invasive Plant Management	The eradication, reduction, or control of invasive or exotic plants. Includes monitoring.	1260, special project funds	\$5K	\$8K	\$18K	\$36K
4.a Bird Banding	Marking and banding of birds	1260, volunteers	\$12K	\$12K	\$24K	\$36K
4.d Nest Structures	The installation and maintenance of artificial nesting structures	1260, volunteers	\$2K	\$2K	\$4K	\$8K
4.e Native Pest Animal/Predator Control	The eradication, reduction or control of invasive or exotic animals (fish)	1260, volunteers	\$1K	\$1K	\$2K	\$4K
5.a Interagency Coordination	Interaction with other Federal, State and local governments to share information, resolve problems, develop cooperative efforts, and manage species & habitats	1260/9251	\$24K	\$24K	\$36K	\$48K
5.b Tribal Coordination	Activities associated with the development of cooperative agreements, MOU's annual funding agreements and similar cooperation/coordination/communication efforts with tribes.	1260	\$1K	\$1K	\$2K	\$2K
5.c Private Land Activities	Efforts to assist private land owners with habitat improvement and wildlife issues. (Initiate Stewardship Mgt.)	1121,9264	\$5K	\$5K	\$50K	\$50K

Project	Action	Resources Needed	Alt 1	Alt 2	Alt 3	Alt 4
6.a Law Enforcement	Public Safety, Resource Protection, Hunt Program	1260, ½ Refuge Officer (LE)	\$30K	\$30K	\$55K	\$55K
6.b Permits & Economic Use Management	Explaining, issuing, and monitoring special use permits	1260, 9263	25K	\$25K	\$30K	\$35K
6.c Contaminant Investigation	investigation, studies, and monitoring. Baseline monitoring of air and water quality	1260, contaminant funding	6K	\$6K	\$10K	\$16K
6.e Water Rights Management	Activities associated with compliance with state and federal laws to protect and achieve adequate supplies of water. Reading, maintaining and installing measurement devices and gaging stations, preparing water mgt. Plans, also monitoring off-refuge water uses.	1260	\$2K	\$2K	\$14K	\$22K
6.f Cultural Resource Management	Supporting the study and protection of significant prehistoric and historic sites. Evaluation of cultural resources and management of museum property.	1260, 9251	\$4K	\$4K	\$28K	\$43K
6.g Land Acquisition Support	Staff participation in land acquisition activities, including development of acquisition proposals and appraisals, meetings, inventories and surveys.	1260	\$5K	\$5K	\$50K	\$76K
7.a Visitor Services	Providing access, facilities, and programs for refuge visitors. Planning, construction, operation and maintenance of visitor facilities such as roads, trails, signs. Interpretation, environmental education, hunting and other recreation.	1260, EE Specialist, ½ Volunteer Coordinator, ½ maintenance worker, temp Park Ranger (EE) , ½ LE officer	\$215K	\$225K	\$400K	\$400K
7.b Outreach	Off-site education of public about Service activities through presentations, exhibits news releases and radio/TV spots.	1260	\$40K	\$40K	\$50	\$65K
TOTALS	Subtotal Annual Operational Costs (in thousands)		\$979	\$993	\$1,561	\$1,752
	Operational Costs over 15 years (in thousands)		\$14,685	\$14,895	\$23,415	\$26,280

C. MAINTENANCE COSTS

The maintenance need over the next fifteen years (funds needed to repair or replace buildings, equipment and facilities) is summarized in Table F-3. Maintenance costs include the maintenance “backlog” - maintenance needs that have come due but are as yet unfunded.

Maintenance includes preventative maintenance; cyclic maintenance; repairs; replacement of parts, components, or items of equipment; adjustments, lubrication, and cleaning (non-janitorial) of equipment; painting; resurfacing; rehabilitation; special safety inspections; and other actions to assure continuing service and to prevent breakdown.

Alternative 1 & 2 reflect the current backlog. Alternatives 3 and 4 reflect the backlog and chart the increased maintenance need associated with new facilities and additional acquisitions.

D. STAFFING

Staff is needed to conserve and enhance the quality and diversity of indigenous wildlife habitats on the Turnbull NWR. With the proper staffing to implement this plan, habitat management practices can be implemented and

monitoring of flora and fauna responses to management can be applied, which will allow us to apply adaptive management strategies so crucial for long term success in meeting the mission, goals and objectives of the Refuge.

Staff will interact with the public for education purposes and to provide for public safety. Maintenance staff will maintain facilities and equipment. Training of staff and coordination among staff, volunteers and partners will ensure the mission and guiding principles of the National Wildlife Refuge System endure.

The following proposed full development level staffing plan would achieve optimum refuge outputs within this planning period (15 years). The rate at which this station achieves its full potential to fulfill the objectives and strategies contained in the plan is totally dependent upon receiving adequate funding and staffing.

Table F-4 below shows the staffing levels associated with each alternative with salary costs. **Note that these costs are already included (project by project) in the recurring costs.** The table simply provides a picture of how the staff structure would look and provides and indication of what percent of the total recurring costs would be allocated towards staff.

Table F-3. Maintenance Costs by Alternative

Maintenance Need	Action	Resources	Alt 1	Alt 2	Alt 3	Alt 4
Buildings	Maintain offices, EE classroom, maintenance. shop, storage buildings, restrooms, vault toilets, well houses, EE shelters, residences	1262, Maintenance Backlog	1,500K	\$1,500K	\$1,500K	\$1,500K
Facilities	Maintain roads, trails, signs, fencing, gates, wells, water control structures, and public use facilities	1262	2,700K	\$2,700K	\$3,000K	\$3,333K
Equipment	Maintain heavy Equip., vehicles, other equipment, office equipment	1262	\$1,650K	\$1,650K	\$1,850K	\$1,850K
Totals	Buildings, Facilities & Equipment	1262	5,850K	5850K	6,350K	6,683K

Table F-4. Annual costs, annual salary and benefits, associated w/ Staff by Alternative

Staff - Refuge Operations		Staff position	Ann. Salary	1	2	3	4
Refuge Manager	PFT	GS-0485-12/13	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
Deputy Refuge Manager	PFT	GS-0485-11/12	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000
Wildlife Biologist	PFT	GS-0486-11/12	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000
Wildlife Biologist	PFT	GS-0486-7/9/11	\$70,000	0	0	\$70,000	\$70,000
Administrative Officer	PFT	GS-0341-09	\$55,000	\$55,000	\$55,000	\$55,000	\$55,000
Eng. Equipment Operator	PFT	WG-5716-10	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000
Maintenance Worker	PFT	WG-4749-08	\$50,000	\$50,000	\$50,000	\$100,000	\$100,000
Superv. Park Ranger /Volunteer Coordinator	PFT	GS-025-09	\$55,000	\$55,000	\$55,000	\$55,000	\$55,000
Maintenance Worker	Temp (0.5)	WG-4749-06	\$16,000	\$16,000	\$16,000	\$16,000	\$32,000
Park Ranger (EE)	Temp (0.5)	GS-025-5/7	\$16,000	\$16,000	\$16,000	\$16,000	\$32,000
Biological Tech	Temp (0.5)	GS-0404-5/7	\$16,000	\$16,000	\$16,000	\$32,000	\$32,000
Refuge Operations Specialist	PFT	GS-0485-9/11	\$70,000	0	0	\$70,000	\$70,000
Purchasing Agent	PFT	GS-1105-5/7	\$35,000	0	0	\$35,000	\$35,000
Park Ranger/Refuge Officer (LE)	PFT	GS-025 -5/7/9	\$48,000	0	0	\$48,000	\$48,000
Environmental Educ. Specialist	PFT	GS-1001-7/9	\$55,000	0	0	\$55,000	\$55,000
Information & Education Specialist	Term	GS-1001-5/7	\$35,000	0	0	\$35,000	\$35,000
Totals			\$811,000	\$498,001	\$498,002	\$877,003	\$909,004

PFT: Permanent Full Time

PS: Permanent Seasonal

Temp: Temporary position

Term: Term position

GS: General Schedule Federal Employees

WG: Wage Grade Scale

Staff - Fire Program		Staff position	Annual Salary	1	2	3	4
Fire Mgt. Officer	PFT	GS-0401-9/11	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000
Supv. Forest Tech/Rx Fire Crew Leader	PFT	GS-0462-08	\$55,000	\$55,000	\$55,000	\$55,000	\$55,000
Lead Forest Tech/Rx Fire Crew Asst. Leader	PS (.85)	GS-0462-06	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
Supv. Forest Tech /Engine Boss (Fire)	PS (0.7)	GS-0462-08	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
Forest Tech/Firefighter	PS (0.7)	GS-0462-05	\$26,000	\$26,000	\$26,000	\$52,000	\$52,000
Forest Tech/Rx Fire Crew	PS (.85)	GS-0462-05	\$30,000	\$120,000	\$120,000	\$150,000	\$180,000
Forest Tech/Firefighter	Temp (0.5)	GS-0462-05	\$13,700	\$27,400	\$27,400	\$27,400	\$27,400
Forest Tech/Firefighter	Temp (0.33)	GS-0462-04	\$8080	\$8080	\$8080	\$8080	\$8080
Forest Tech/Firefighter	Temp (0.33)	GS-0462-03	\$7200	\$7200	\$7200	\$7200	\$7200
Totals			\$289,980	\$393,681	\$393,682	\$449,683	\$479,684

E. PARTNERSHIP OPPORTUNITIES

The Refuge's location next to a large metropolitan area facilitates many opportunities for partnerships with other agencies, interest groups and schools. Coordinated partnership efforts will focus on habitat restoration, land protection, environmental education, fish and wildlife monitoring, outreach, and quality wildlife-dependent recreation. Current and past partners include local schools, and non-profit groups (such as The Audubon Society, Friends of Turnbull NWR, Inland Northwest Wildlife Council, Eastern Washington University, Washington State Parks and Recreation Commission, The Nature Conservancy, Spokane County Fire District 3 and many others). Future partners will include these groups as well as state and tribal agencies. Partnerships like these will increase our effectiveness,

knowledge, and community support, as well as reduce Refuge operating costs.

In order for the Service to be effective in the Stewardship area around the Refuge we will strive to exchange information and provide technical assistance to neighboring landowners to promote protection of valuable wildlife habitat on neighboring properties. Volunteers will continue to assist with various Refuge programs, as detailed in Chapter 3, Section 3.11

F. BUDGET SUMMARY

Table F-5 summarizes the data from the above tables and displays the overall **annual** funding need, by alternative, for Turnbull National Wildlife Refuge.

Table F-5. Summary of Refuge Annual Funding Need, by CCP Alternative

Budget Category	Alt 1	Alt 2	Alt 3	Alt 4
One Time expenditures - all projects (total costs over 15 years)				
Research and Monitoring	400,000	400,000	508,000	604,000
Facilities	115,000	2,145,000	3,527,000	4,225,000
Habitat Management	2,879,000	2,879,000	4,423,000	4,920,000
Land Acquisition	4,000,000	4,000,000	13,600,000	18,000,000
A. Subtotal One Time Expenditures - all	7,394,000	9,424,000	22,058,000	27,749,000
One time expenditures - high priority projects only (total costs over 15 years)				
Research and Monitoring	198,000	198,000	230,000	290,000
Facilities	40,000	1,440,000	1,956,000	1,956,000
Habitat Management	2,839,000	2,839,000	4,343,000	4,760,000
Land Acquisition	4,000,000	4,000,000	13,600,000	18,000,000
B. Subtotal One Time Expenditure high priority projects only	7,077,000	8,477,000	20,129,000	25,006,000
C. Recurring Costs - all projects / salaries	14,685,000	14,895,000	23,415,000	26,280,000
D. Maintenance Need (total over 15 years)	5,850,000	5,850,000	6,350,000	6,683,000
Total Annual Budgetary Need: High priority projects only = (B +C +D) / 15	\$ 1,840,800	\$ 1,948,133	\$ 3,326,267	\$3,864,600
Total Annual Budgetary Need: All projects = (A +C +D) / 15	\$ 1,861,933	\$ 2,011,267	\$ 3,454,867	\$4,047,467